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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/473,650

12/29/1999

CARL R. STEVENSON

STEVENSON-8

1262

7590

03/21/2003

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EXAMINER

PEREZ GUTIERREZ, RAFAEL

ART UNIT

PAPER NUMBER

2683

DATE MAILED: 03/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.
09/473,650

Applicant(s)
Stevenson

Examiner
Rafael Perez-Gutierrez

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2683



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Dec 29, 1999
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Dec 29, 1999 is/are a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Drawings

1. New formal drawings are required in this application. See the attached Notice of Draftsperson's Patent Drawing Review for appropriate corrections.
2. **Figure 2** should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).
3. The drawings are objected to because of the following minor informalities:
 - a) The reference to "U.S. Patent # 4,726,069" as part of receiver 102 in **figure 1** is improper. Such reference must be deleted from the figure; and
 - b) On **figure 1 item 100**, replace "Array" with --Array--.
4. Applicant is required to submit a proposed drawing correction in reply to this Office Action. However, formal correction of the noted defect may be deferred until after the Examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.

Claim Objections

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5. **Claim 8** is objected to because of the following informality: on **line 8** of **claim 8**, replace “the” with --a-- before “substantially” in order to provide proper antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless -- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. **Claims 1-7** are rejected under 35 U.S.C. 102(e) as being anticipated by **Schuchman et al. (U.S. Patent # 6,148,195)**.

Consider **claim 1**, Schuchman et al. clearly show and disclose a cellular telephone (wireless) communication system, comprising:

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a transmitter for transmitting a signal (RF (common) transceiver in abstract);
a plurality of antennas SA1-SAN for use by one receiver (abstract, figures 9 and 11, and column 6 lines 6-14 and 40-48);

an antenna resolver 40 (scanner) (figure 11) adapted to scan through the plurality of antennas SA1-SAN and in turn provide a signal received from each of the plurality of antennas SA1-SAN to the receiver and to impart a phase onto a received signal (column 6 lines 40-55);
and

a receiver (figure 11) having direction finding means for determining the bearing of a received signal in accordance with the phase thereof (abstract, figures 2, 9, and 11, column 1 lines 46-54, column 3 lines 38-44, and column 6 lines 6-55).

Consider **claims 2 and 3**, and **as applied to claim 1 above**, Schuchman et al. further show and disclose that the scan rate of the antenna resolver 40 (scanner) (figure 11) for scanning each of the plurality of antennas SA1-SAN is at least 100 hertz (at least 2000 hertz for the plurality of antennas SA1-SAN) (figure 10 and column 6 lines 22-39).

Consider **claim 4**, and **as applied to claim 1 above**, Schuchman et al. also show and disclose that the plurality of antennas SA1-SAN are equidistant from a center point (figures 2 and 9 and column 1 lines 46-54).

Consider **claim 5**, and **as applied to claim 4 above**, Schuchman et al. further show and disclose that the plurality of antennas SA1-SAN are spaced equally apart around a circular array (circumference of a circle) formed about said center point (figures 2 and 9 and column 1 lines 46-

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54).

Consider **claim 6**, and **as applied to claim 1 above**, Schuchman et al. also show and disclose that the plurality of antennas SA1-SAN comprises at least three antennae (e.g., SA1, SA2, SA3) (figures 2 and 9).

Consider **claim 7**, and **as applied to claim 1 above**, Schuchman et al. further show and disclose that the antenna resolver 40 (scanner) continuously scans and connects each of the plurality of antennae SA1-SAN in turn to the receiver for a substantially equal period of time (figures 2 and 9 and column 6 lines 14-21 and 40-50).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

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3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. **Claims 8-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Schuchman et al. (U.S. Patent # 6,148,195)** in view of **Borras et al. (U.S. Patent # 5,303,240)** and further in view of **Sole et al. (U.S. Patent # 6,150,987)**.

Consider **claims 8, 9, and 13**, and as **applied to claims 1 and 7 above**, Schuchman et al. clearly show and disclose the claimed invention except that the plurality of antennas SA1-SAN are operated as a phased array during a transmit mode.

Borras et al. clearly show and disclose a communication system for determining the direction for transmitting and receiving a signal comprising an array of phased antennas 10 (figure 2) used for receiving as well as transmitting a signal (column 2 lines 51-66 and claims 1, 4, 5, 7-9, and 12-16).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Schuchman et al. with the teachings of Borras et al. in order to use the plurality of antennas as a phased array during a transmission mode. Efficient use of the system gain can be achieved by using the antennas as a phased array during a transmit mode.

However, Schuchman et al. as modified by Borras et al. do not specifically disclose that the wireless communication environment is a substantially stationary wireless communication

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environment.

Sole et al. clearly show and disclose an antenna assembly and a method for communicating using said assembly in a substantially stationary wireless communication environment such as a wireless local loop, said method including, among other steps, the steps of scanning an antenna and finding the bearing of a received signal (abstract, column 1 line 55 - column 2 line 47, column 3 lines 40-59, and column 4 lines 17-28 and 47-65).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to further modify the combined teachings of Schuchman et al. and Borrás et al. with the teachings of Sole et al. in order to use said method of communication in a substantially stationary wireless communication environment such as, for example, a wireless local loop as taught by Sole et al.

Consider **claims 10-12 and 14-17**, and **as applied to claim 8 above**, Schuchman et al. (abstract) and Borrás et al. (abstract and column 1 lines 6-9) both disclose that their teachings apply to wireless communications systems, therefore, they at least suggest that wireless communication environment can be a wireless local area network, a cordless telephone or modem, a cellular or PCS telephone, a trunked mobile radio system or a mobile satellite communications system.

Consequently, it would have been clearly obvious to a person of ordinary skill in the art at the time the invention was made to apply the teachings of Schuchman et al., Borrás et al., and Sole et al. in any of the above-mentioned environments.

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Consider **claims 18 and 19**, and **as applied to claim 8 above**, Schuchman et al. further show and disclose that the scan rate of the antenna resolver 40 (scanner) (figure 11) for scanning each of the plurality of antennas SA1-SAN is at least 100 times per second (at least 2000 times per second for the plurality of antennas SA1-SAN) (figure 10 and column 6 lines 22-39).

Consider **claim 20**, and **as applied to claim 8 above**, Schuchman et al. also show and disclose that the plurality of antennas SA1-SAN are located substantially equidistant from a center point (figures 2 and 9 and column 1 lines 46-54).

Consider **claim 21**, and **as applied to claim 20 above**, Schuchman et al. further show and disclose that the plurality of antennas SA1-SAN are spaced equally apart around a circular array (circumference of a circle) formed about said center point (figures 2 and 9 and column 1 lines 46-54).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

Yokey et al. (U.S. Patent # 5,592,180) disclose a direction finding and mobile location system for trunked mobile radio systems;

Bruzzone (U.S. Patent # 6,271,791 B1) discloses a radio-signal direction finding;

Bevan et al. (U.S. Patent # 6,489,923 B1) disclose a position location method and

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apparatus for a mobile telecommunications system.

11. Any response to this Office Action should be **faxed to (703) 872-9314 or mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Hand-delivered responses should be brought to

Crystal Park II
2021 Crystal Drive
Arlington, VA 22202
Sixth Floor (Receptionist)

12. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Rafael Perez-Gutierrez whose telephone number is (703) 308-8996. The Examiner can normally be reached on Monday-Thursday from 6:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, William G. Trost IV can be reached on (703) 308-5318. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700 or call customer service at (703) 306-0377.

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Rafael Perez-Gutierrez

R.P.G./rpg

RAFAEL PEREZ-GUTIERREZ
PATENT EXAMINER

March 13, 2003



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